Comments presented at the Public meeting on the DOE Yucca Mountain Preliminary Site Suitability Evaluation Dated July 2001

This is a first for me. This 481 plus page report attempts to justify a site and compare it to a requirement that has been proposed but not approved. No where in the report is there any mention that the site meets any of the requirements that were established for the deep geological disposal of high level nuclear waste. The report attempts to tell the powers to be that if the proposed criteria is approved the site will be suitable. It is like saying, "here are the requirements for an airplane". The contractor replies," here is my proposal and if you change the criteria and method of evaluation and I can simulate all the parameters that are based on my experience instead of flying the plane, I can build your airplane". Would anyone be the first to fly in the airplane? The Department of Energy's (DOE) record has been at the best "poor" when it comes to operating any site that was required to meet health considerations.

The entire report uses a simulation that has not been approved to justify the statements that the site is adequate. DOE states that the site will meet the proposed criteria for the regulatory period. This 10,000-year period has no correlation to the period of dangerous radiation. Figure 3.3 Page 3-10 clearly illustrates the problem past 10,000 years. The mean annual dose at 20,000 years is 500 mrem/yr. This far exceeds the EPA specified dose limit beyond the artificial requirement of 10,000 years. This illustrates the folly of the 10,000-year requirement as the regulatory period. It is interesting to note that DOE after reviewing the results of their own simulation decided that the data didn't look too good. It shows that there was NO radiation before the 10,000-year period so DOE simply varied some simulated data and ran the simulation again to show that radiation exposure was minimal for many more years. This proves that the entire simulation process is suspect.

The entire report is fraught with questions concerning the parameters used in the simulation. The reader is given a list of reports without the DTN number making it very difficult to find the information. One example of this is the corrosion rates of Alloy 22. Alloy 22 corrosion resistance depends in part on the thin film. DOE has simulated the effect of earthquakes, humidity, temperature etc on the life of the waste package. The placement of the waste packages on to the support legs will cause damage if there is any rubbing motion as the support legs and the waste package come in contact. Small earthquakes will cause slight movement between the two pieces and will break the film. I could not determine that DOE simulated many point defects in the film and used these defects in the simulation. One must assume that the film on each waste package was damaged during installation and the natural repair of the film was interrupted many times during the time before closure and during the 10,000 years due to small earth tremors. . Please tell me the report and page number where this problem is discussed and evaluated. I don't want an answer that says, " we studied the problem"

Alloy 22 is the centerpiece on which DOE builds their case that man can build a system that can withstand the elements of Mother Nature for a minimum of 10,000 years without any maintenance. This far exceeds what man has done to date. DOE and the nuclear power industry want the public to believe that they are smarter engineers than God is.

I have many more questions on the performance. Because of time constraints I will speak to one more. DOE proposes to use helium (pg. 3-78) to conduct the heat from the center of the waste package to the outside ambient. Helium is a very difficult gas to contain as it easily diffuses through metal. The welds may be structurally strong but I question the robustness of the metal cask to contain the helium through even 500 years. This comes from experience of at least 30

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Make sure we get crisp, specific answers to these technical questions, esp. re. waste pkg material

years in the use of helium. I would like the DOE to show why they think they have solved this problem and how they can prove it and more important how do they know the helium is in the container before the site is closed. Again, I do not want an answer to be " it was studied"

It has become clear that DOE, after investigating the minimal natural barriers, concluded that engineering barriers are required to contain the high level nuclear waste so as not to harm future generations. The DOE has had continually add 'engineered barriers' to replace the non-existing natural barriers. DOE after much study and simulation finally came to the conclusion that the original criteria could not be met. The DOE proposed criteria has not been shown to be credible when examined against the real purpose of a deep geological repository. This proposed site can not insure that the waste can be isolated for as long as it is a hazard to future generations. Congress selected this site based on incomplete data, assumed that the natural barriers in the Southwest would be adequate and that 'engineered barriers' would augment the natural barriers. It now appears that the natural barriers are about 5%, a fact very cleverly concealed in this report.

Mr. Secretary in all good conscience can you recommend to the President that this is a good site when about 95% of the containment is man constructed from materials that have been tested, for no more than 0.004% of the required years? This site, based on all the simulation to date, is not a suitable deep geological repository for high level nuclear waste. It would be just as safe to leave it above ground as DOE has done in the past at some of their sites.

Please Mr. Secretary, do not rely on man made barriers to insure the safety of future generations. There are sites in this country that are far more suitable and do not require 'engineered barriers to be the first line of containment. The Northern portion of the State of Wisconsin is one such site. This is the same type of site that Sweden and Finland are considering for their deep geological repository, which have been praised by members of the White House and the Nuclear Energy Lobby. The Yucca Mountain site does not have adequate natural barriers and DOE has demonstrated that it can not, after spending billions trying to justify a bad decision made by Congress, replace Mother Nature. Please do not let this continue.

I will add more comments on this report when I send it to the DOE.

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